CONTENTS—1979, Nos. 1–4

Andreson, M. Eric (see Belman, Bruce W.) Andrews, Robin M. Reproductive effort of female Anolis limifrons (Sauria: Iguanidae)	620
BARKER, DAVID G., JAMES B. MURPHY AND KENNETH W. SMITH. Social behavior in a captive group of Indian pythons, <i>Python molurus</i> (Serpentes, Boidae) with formation of a	020
linear social hierarchy	466
BARNARD, S. M., T. G. HOLLINGER AND T. A. ROMAINE. Growth and food consumption in the corn snake, <i>Elaphe guttata guttata</i> (Serpentes: Colubridae)	739
BARTLETT, GRANT R. Phosphate compounds in red cells, liver and skeletal muscle of the	
American eel, Anguilla rostrata BAUER, G. (see de Vlaming, V. L.)	360
BECK, MELVIN L. AND JAMES T. MAHAN. Ammoniacal silver staining of nucleolar organizer	341
regions in four species of Bufo Bell, Graham. Populations of crested newts, Triturus cristatus, in Oxfordshire, England	350
Bell, Michael A. Low-plate morph of the threespine stickleback breeding in salt water Belman, Bruce W. and M. Eric Anderson. Aquarium observations on feeding by Melano-	529
stigma pammelas (Pisces: Zoarcidae)	366
BENNETT, ALBERT F. AND TODD T. GLEESON. Metabolic expenditure and the cost of forag-	
ing in the lizard Cnemidophorus murinus BICKHAM, JOHN W. (see Sites, Jr., Jack W.)	573
BLABER, STEPHEN J. M. (see Whitfield, Alan K.)	
BLACK, D. ANN (see HOWELL, W. MIKE)	
BLACK, D. ANN AND W. MIKE HOWELL. The North American mosquitofish, Gambusia	
affinis: A unique case in sex chromosome evolution	509
BOWKER, MARGARET H. (see Bowker, Richard G.)	
BOWKER, RICHARD G. AND MARGARET H. BOWKER. Abundance and distribution of anurans in a Kenyan pond	278
Briggs, John C. Ostariophysan zoogeography: an alternative hypothesis	111
BRODIE, JR., EDMUND D., ROBERT T. NOWAK AND WILLIAM R. HARVEY. The effectiveness	070
of antipredator secretions and behavior of selected salamanders against shrews	270 191
BURTON, DEREK. Sexual dimorphism in the integumentary tissues of threespine stickleback, Gasterosteus aculeatus form leiurus.	533
BUTH, DONALD G. Creatine kinase variability in Moxostoma macrolepidotum (Cypriniformes: Catostomidae)	152
CARPENTER, CHARLES C. A combat ritual between two male pygmy rattlesnakes (Sistrurus miliarius)	638
CASE, SUSAN M. Observations on some cranial foramina in the Ranidae	346
CECIL, STEPHEN G. AND JOHN J. JUST. Survival rate, population density and development of a naturally occurring anuran larvae (Rana catesbeiana)	447
Cei, José M. (see Scolaro, José A.)	
CHIRICHIGNO F., NORMA AND JOHN D. McEachren. Urolophus tumbesensis, a new stingray from the coast of Peru (Batoidea: Urolophidae)	709
Снои, L. M. Eggs and incubation period of three gekkonid lizards	552
CHRISTEIN, DEBRA R., SHELDON I. GUTTMAN AND DOUGLAS H. TAYLOR. Heterozygote defi- ciencies in a breeding population of <i>Bufo americanus</i> (Bufonidae: Anura): the test of a	498
hypothesis	190
CRISP, MARY, L. M. COOK AND F. V. HEREWARD. Color and heat balance in the lizard	
Lacerta dugesii	250
CRUMP, MARTHA L. AND ROBERT H. KAPLAN. Clutch energy partitioning of tropical tree frogs (Hylidae)	626
DALRYMPLE, GEORGE H. Packaging problems of head retraction in trionchid turtles	655
Dawson, C. E. A new wormfish (Pisces: Microdesmidae) from the eastern tropical Atlantic	203
DELAHUNTY, G. (see de Vlaming, V. L.)	
DE VLAMING, V. L., G. DELAHUNTY, M. PRACK AND G. BAUER. Estradiol-17β effects on serum	749
organic PO ₄ , cholesterol and protein in Carassius auratus Diefenbach, C. Olegario da C. Ampullarid gastropod—staple food of Caiman latirostris?	162
DIMICHELE, LEONARD (see Taylor, Malcolm H.)	102
DIXON, JAMES R. (see Markezich, Allan L.) DOLE, JIM W. (see Shinn, Elizabeth A.)	

DOOLEY, JAMES K. A rare and unusually large macrourid fish from the Canary Islands DORANDO, SARAH L. A method to reduce error in weight estimation of freshwater turtles DUNCAN, ROBERT AND RICHARD HIGHTON. Genetic relationships of the eastern large Plethodon	541 346
of the Ouachita Mountains	95
DUNSON, MARGARET K. (see Dunson, William A.) DUNSON, WILLIAM A. Salinity tolerance and osmoregulation of the Key mud turtle, Kinoster-	
non b. baurii	548
Dunson, William A. and Margaret K. Dunson. A possible new salt gland in a marine homalopsid snake (Cerberus rhynchops)	661
FELLERS, GARY M. Mate selection in the gray treefrog, Hyla versicolor	286
FINK, WILLIAM L. Hildatia Fernandez-Yepez, a synonym of the gymnotoid genus Sternopygus Müller and Troschel	751
FORESTER, DON C. The adaptiveness of parental care in <i>Desmognathus ochrophaeus</i> (Urodela: Plethodontidae)	332
FUENTES, EDUARDO R. AND FABIAN M. JAKSIC. Activity temperatures of eight Liolaemus (Iguanidae) species in central Chile	546
GAMBS, R. D. AND M. J. LITTLEJOHN. Acoustic behavior of males of the Rio Grande leopard	
frog (Rana berlandieri): an experimental analysis through field playback trials	643
GARRICK, LESLIE D. Lizard thermoregulation: operant responses for heat at different thermal intensities	258
GIBBONS, JOHN R. H. The hind leg pushup display of the Amphibolurus decresii species complex (Lacertilia: Agamidae)	29
GILLINGHAM, JAMES C. Reproductive behavior of the rat snakes of eastern North America, genus Elaphe	319
GILMORE, R. GRANT. Varicus marilynae, a new gobiid fish from Florida	126
GLEESON, TODD T. (see Bennett, Albert F.)	
GORMAN, GEORGE C. AND JOSEPH RENZI, JR. Genetic distance and heterozygosity estimates in electrophoretic studies: effects of sample size	242
GRAHAM, T. E. AND V. H. HUTCHISON. Effect of temperature and photoperiod acclimatiza-	
tion on thermal preferences of selected freshwater turtles	165
Green, Brian (see King, Dennis)	
Gross, Harm P. Geographic variation in European ninespine sticklebacks, Pungitius pungitius	405
GUTTMAN, SHELDON I. (see Christein, Debra R.) HAAS, RICHARD. Intergeneric hybridization in a sympatric pair of Mexican cyprinodontid fishes	149
HAHN, DONALD E. A new species of Cynisca (Amphisbaenidae) from the Ivory Coast	122
HAIDUK, MIKE W. (see Sites, Jr., Jack W.)	
HALDORSON, LEWIS AND MIKE MOSER. Geographic patterns of prey utilization in two species of surfperch (Embiotocidae)	567
HANKEN, JAMES. Egg development time and clutch size in two neotropical salamanders	741
Harvey, William R. (see Brodie, Jr., Edmund D.) Hereward, F. V. (see Crisp, Mary)	
HIGHTON, RICHARD (see Duncan, Robert) (see Maxson, Linda R.)	
HILL, LOREN G. (see Matthews, William J.)	
HIMSTEDT, WERNER. The significance of color signals in partner recognition of the newt Triturus alpestris	40
HOLLINGER, T. G. (see Barnard, S. M.)	
HOLMAN, J. ALAN. Herpetofauna of the Nash local fauna (Pleistocene: Aftonian) of Kansas	747
Howell, W. Mike (see Black, D. Ann)	
HOWELL, W. MIKE AND D. ANN BLACK. Location of the nucleolus organizer regions on the	
sex chromosomes of the banded killifish, Fundulus diaphanus	544
IVERSON, JOHN B. On the validity of Kinosternon arizonense Gilmore	175
IVERSON, JOHN B. A taxonomic reappraisal of the yellow mud turtle, Kinosternon flavescens	
(Testudines: Kinosternidae)	212
IVERSON, JOHN B. (see Sites, Jr., Jack W.)	
JACKSON, JAMES F. Effects of some ophidian tail displays on the predatory behavior of grison (Galictis sp.)	169
JACOB, WILLIAM F. (see Taylor, Malcolm H.)	
JAEGER, ROBERT G. (see Olmsted, Luke R.)	
JAKSIC, FABIAN M. (see Fuentes, Eduardo R.)	
JAMES, F. C. (see Porter, W. P.)	
JAMES, FRANCES C. AND WARREN P. PORTER. Behavior-microclimate relationships in the African rainbow lizard. Agama agama	585

JAYN JENS JOHN IIZ JUST KAPPI KAPPI

JAYNE, BRUCE C. (see V	ee Milton, Thomas H.) (see Rothblum, Linda M.)
	AND HARVEY B. LILLYWHITE. Digestive efficiency of the omnivorous
	rsiana
JUST, JOHN J. (see Cecil	
	Ontogenetic variation in "ovum" size in two species of Ambystoma
KAPLAN, ROBERT H. (se	
	ED. Meristic characters of two Morone hybrids
	IAN GREEN. Notes on diet and reproduction of the sand goanna,
Varanus gouldii rosenb	
	ee Loudenslager, Eric J.)
KOFRON, CHRISTOPHER	P. Female reproductive biology of the brown snake, Storeria dekayi,
in Louisiana	1 1 f .l. p.\
KRATER, SANDRA (see O	
KUJBIDA, ELIZBIETA (see	
	nabitat preference of low plate number morphs in threespine stickle-
backs (Gasterosteus act	
sticklebacks (Gasterost	ation decline and change in frequencies of lateral plates in threespine
	ermophilic response of the American alligator and the American croco-
LEACH, GLENN J. (see T	aylor, Malcolm H.)
	(see Taylor, Malcolm H.)
	B. (see Johnson, Randall N.)
	McKaye, Kenneth R.)
LITTLEJOHN, M. J. (see	
	Synchronous aerial respiration by the walking catfish in Florida
	AND ROBERT M. KITCHIN. Genetic similarity of two forms of cutthroat Wyoming
LUTHARDT, GISELA ANI	GERHARD ROTH. The relationship between stimulus orientation and
	pattern in the prey catching behavior of Salamandra salamandra
Magnusson, William	E. Production of an embryo by an Aerochordus javanicus isolated for
seven years	D. I. M. I. S. T. S.
MAHAN, JAMES T. (see	
MAJOR, PETER F. PISC	ivorous predators and disabled prey
	AND JAMES R. DIXON. A new South American species of snake and
	nus Umbrivaga
	ND CHARLES A. WENNER. Evidence of demersal spawning in the meso-
	Melanostigma atlanticum with comments on demersal spawning in the
Marriagne Warran I	enodermichthys copei
MATTHEWS, WILLIAM J	history Notation by Indiana, (Pieces Commission)
	chiners, Notropis lutrensis (Pisces: Cyprinidae)
	The metabolism of reclusive lizards, the Xantusiidae
	AND LAWRENCE M. PAGE. Systematics of Percina roanoka and P. crassa,
	P. peltata and P. notogramma (Pisces: Percidae)
	is in the plethodontid salamander genera Plethodon and Ensatina
	V. Eastern Pacific Rypticus (Pisces: Grammistidae)
	he centrolophid genus Tubbia (Pisces: Stromateoidei)
	(see Chirichigno F., Norma)
ing biology of Gobio	Douglas J. Weiland and Terrance M. Lim. Comments on the breed- morus dormitor (Osteichthyes: Eleotridae) and the advantage of school-
	y Ispany C. Tasse. Effects of formalin (buffered and unbuffered)
and hydrochloric ac	, AND JERRY C. TASH. Effects of formalin (buffered and unbuffered) id on fish otoliths
MECHAM, J. S. (see Plat	
MILLER, JOHN M. AND	JOHN W. TUCKER, JR. X-radiography of larval and juvenile fishes
MILLER, ROBERT RUSH Oios, Anablets down (1	Ecology, habits, and relationships of the Middle American quatro Pisces: Anablepidae)
MILTON, THOMAS H	ND THOMAS A. JENSSEN. Description and significance of vocalizations
	nuria: Iguanidae)
MONTAGUE, JEREMY I	R. Note on larval feeding behavior in Desmognathus fuscus fuscus,
	salamander
MOSER, MIKE (see Hald MURPHY, JAMES B. (see	

NAKAJIMA, TSUNEO. The development and replacement pattern of the pharyngeal dentition
in the Japanese cyprinid fish, Gnathopogon coerulescens NAYUDU, P. L. Genetic studies of melanic color patterns and atypical sex determination
in the guppy, Poecilia reticulata2
NAYUDU, P. L. AND C. R. HUNTER. Cytological aspects and differential response to melatonin of melanophore based color mutants in the guppy, <i>Poecilia reticulata</i> 2
Nelson, Gareth (see Randall, John E.)
Nickerson, Max A. (see Noeske, Teresa A.)
NOESKE, TERESA A. AND MAX A. NICKERSON. Diel activity rhythms in the hellbender, Cryptobranchus alleganiensis (Caudata: Cryptobranchidae) NOWAK, ROBERT T. (see Brodie, Jr., Edmund D.)
OLMSTED, LUKE R., SANDRA KRATER, GEORGE E. WILLIAMS AND ROBERT G. JAEGER. Foraging tactics of the mimic shiner in a two-prey system
PAGE, LAWRENCE M. (see Mayden, Richard L.) PARIN, N. V. Studies on the systematics and zoogeography of oceanic fishes at the P. P. Shir-
shov Institute of Oceanology of the U.S.S.R. Academy of Sciences (1948–1979)
Perschbacher, Peter W., Kenneth J. Sulak and Frank J. Schwartz. Invasion of the Atlantic by <i>Peprilus burti</i> (Pisces: Stromateidae) and possible implications
PLATZ, J. E. AND J. S. MECHAM. Rana chiricahuensis, a new species of leopard frog (Rana pipiens complex) from Arizona 3
PORTER, WARREN P. (see James, Frances C.)
PORTER, W. P. AND F. C. JAMES. Behavioral implications of mechanistic ecology II: the Af-
rican rainbow lizard, Agama agama5
Prack, M. (see de Vlaming, V. L.)
PUCKE, JOHN AND BRUCE L. UMMINGER. Histophysiology of the gills and dendritic organ of
the marine catfish, Plotosus lineatus, in relation to osmoregulation
QUINN, HUGH R. Reproduction and growth of the Texas coral snake (Micrurus fulvius
tenere)
RANDALL, JOHN E. (see Woodland, David J.)
RANDALL, JOHN E. AND GARETH NELSON. Scarus japanensis, S. quoyi and S. iserti—valid names for parrotfishes presently known as S. capistratoides, S. blochii and S. croicensis
RENZI, JR., JOSEPH (see Gorman, George C.)
RISHI, K. K. Somatic G-banded chromosomes of <i>Colisa fasciatus</i> (Perciformes: Belontidae) and confirmation of female heterogamety
ROMAINE, T. A. (see Barnard, S. M.)
ROTH GERHARD (see Luthardt, Gisela)
ROTHBLUM, LINDA M., JEFFREY W. WATKINS AND THOMAS A. JENSSEN. A learning paradigm
and the behavioral demonstration of audition for the lizard <i>Anolis grahami</i>
and diplodactyline geckos
SADOGLU, PERHAN. A breeding method for blind Astyanax mexicanus based on annual spawning patterns
SCHRODER, STEVEN L. AND THOMAS M. ZARET. The adaptive significance of color patterns
in Cichla ocellaris
SCOLARO, JOSÉ A. AND JOSÉ M. CEI. The southernmost population of Elapomorphus bi-
lineatus in Argentine Patagonia
SEYMOUR, ROGER S. Blood lactate in free-diving sea snakes
SHINE, RICHARD. Sexual selection and sexual dimorphism in the amphibia
SHINN, ELIZABETH A. AND JIM W. DOLE. Evidence for a role for olfactory cues in the feeding response of western toads, Bufo boreas
SHINN, ELIZABETH A. AND JIM W. DOLE. Lipid components of prey odors elicit feeding re-
SITES, JR., JACK W., JOHN W. BICKHAM, MIKE W. HAIDUK AND JOHN B. IVERSON. Banded
karyotypes of six taxa of kinosternid turtles
SMITH, MARGARET M. Rhabdosargus thorpei, a new sparid fish from South Africa, with a key
to the species of Rhabdosargus
STARNES, LYNN B. (see Starnes, Wayne C.)
STARNES, WAYNE C. AND LYNN B. STARNES. Taxonomic status of the percid fish Etheostoma nigrum susanae
SULAK, KENNETH J. (see Perschbacher, Peter W.)
SZARSKI, HENRYK AND ELIZBIETA KUJBIDA. Observations on the blood-vascular system of

TALL hu TASH TAYIN WY CY THOU THE CAN THE CAN

Types I type I Time hydget nishe evenlen inter and interpreting in the Fr
Talbot, James J. Time budget, niche overlap, inter- and intraspecific aggression in <i>Anolis humilis</i> and <i>A. limifrons</i> from Costa Rica
Tash, Jerry C. (see McMahon, Thomas E.)
TAYLOR, DOUGLAS H. (see Christein, Debra R.)
TAYLOR, MALCOLM H., GLENN J. LEACH, LEONARD DIMICHELE, WILLIAM M. LEVITON AND
WILLIAM F. JACOB. Lunar spawning cycle in the mummichog, Fundulus heteroclitus (Pisces: Cyprinodontidae)
THOMPSON, KENNETH W. Cytotaxonomy of 41 species of neotropical Cichlidae
THRESHER, RONALD E. Possible mucophagy by juvenile <i>Holacanthus tricolor</i> (Pisces: Pomacanthidae)
TRUEB, LINDA. Leptodactylid frogs of the genus <i>Telmatobius</i> in Ecuador with the description of a new species
TUCKER, JR., JOHN W. (see Miller, John J.)
Tyler, Michael J. A new species of Cophixalus (Anura: Microhylidae) from Queensland, Australia
TYLER, MICHAEL J. The introduction and current distribution in the New Hebrides of the
Australian hylid frog Litoria aurea
Umminger, Bruce L. (see Pucke, John)
UWATE, KEN ROGER. Revision of the anglerfish Diceratiidae with descriptions of two new species
Van Couvering, Judith A. H. More fossil gerthosaurs from the Miocene of Kenya (Reptilia: Cordylidae)
VILLA, JAIME. Two fungi lethal to frog eggs in Central America
Voris, Harold K. and Bruce C. Jayne. Growth, reproduction and population structure of a marine snake, <i>Enhydrina schistosa</i> (Hydrophiidae)
WAKE, DAVID B. (see Maxson, Linda R.)
WATKINS, JEFFREY W. (see Rothblum, Linda M.)
WEILAND, DOUGLAS J. (see McKaye, Kenneth R.)
WEISEL, GEORGE F. Histology of the feeding and digestive organs of the shovelnose styrgeon, Scaphirhynchus platorynchus
WENNER, CHARLES A. Notes on fishes of the genus <i>Paraliparis</i> (Cyclopteridae) on the middle Atlantic continental slope
Wenner, Charles A. (see Markle, Douglas F.)
WHITFIELD, ALLAN K. AND STEPHEN J. M. BLABER. Predation on striped mullet (Mugil ceph-
alus) by Crocodylus niloticus at St. Lucia, South Africa
WILLIAMS, GEORGE E. (see Olmsted, Luke R.)
WILSON, MARK V. H. A second species of Libotonius (Pisces: Percopsidae) from the Eocene
of Washington state Winkler, Paul. Thermal preference of Gambusia affinis affinis as determined under field and
laboratory conditions
WOODLAND, DAVID J. AND JOHN E. RANDALL. Siganus puelloides, a new species of rabbitfish from the Indian Ocean
ZARET, THOMAS H. (see Schroder, Steven L.)